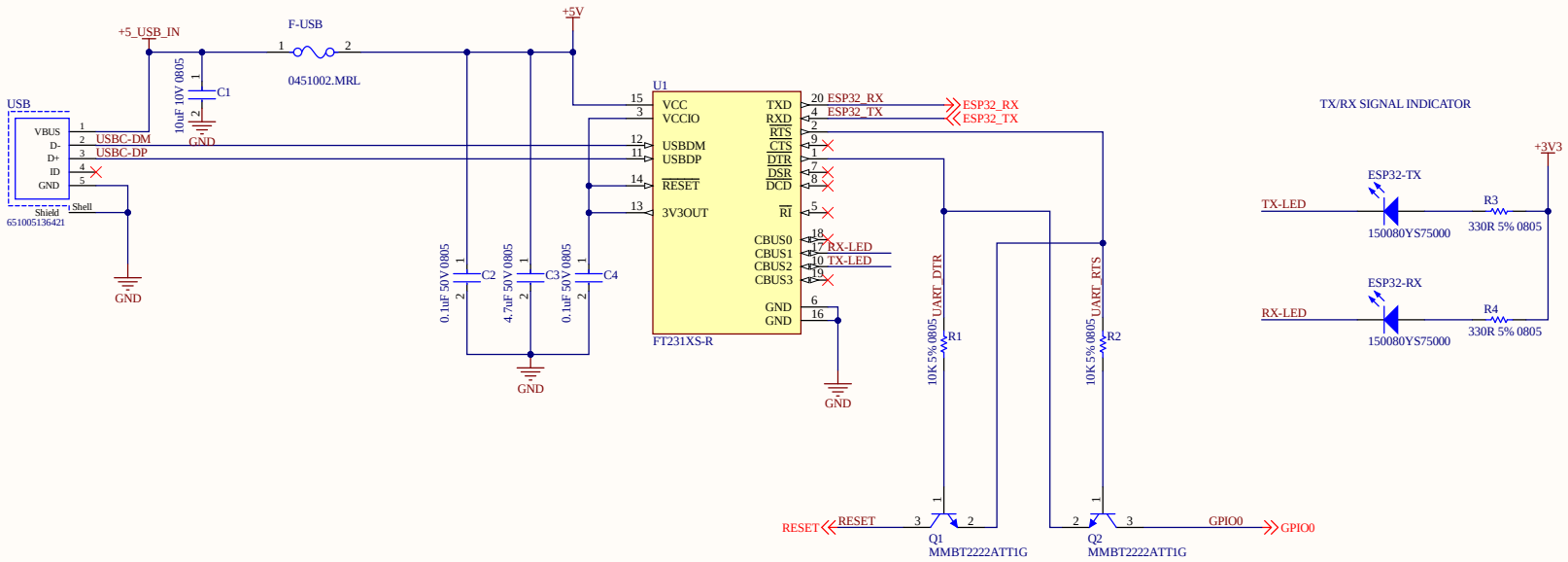
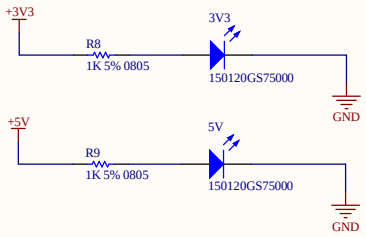
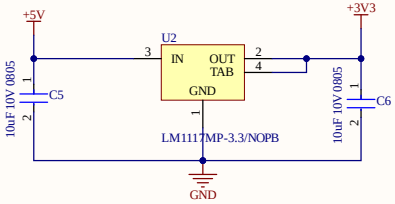
# USB-UART | FT231XS + 3V3 LDO (3V3 @ 3A = 9.9W, support USB-C and USB3.0 fast charge)










800mA should be enough for ESP32 and corresponding circuits

Boot Mode Configuration

| Pin | Default | Boot | Download |
|---|---|---|---|
| GPIO-0 | 1 | 1 | 0 |
| ESP32-TXD | 1 | 1 | X |
| GPIO-2 | 0 | X | 0 |
| GPIO-4 | 0 | X | X |
| GPIO-5 | 1 | 1 | X |

NOTE: If TXD, IO2 and IO5 are floating, GPIO-0 determines boot mode

IF DTR = LOW -> toggle RTS from HIGH to LOW to reset to RUN mode

IF DTR = HIGH -> toggle DTR from LOW to HIGH to reset bootloader

| | | |
|---|---|---|
| Title | ESP32-DCU-Rev1 \| USB-UART | |
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| File: C:\Users\..\USB-ESP32.SchDoc | | Drawn By: D. Gusev |

# MCU | ESP32-WROOM-32D / 32E

NOTE:

GPIO6...11 -> connected to the internal SPI Flash

All pins configured as I/O can be used as PWM

GPIO0, 2, 4, 5, 12, 15 should be avoided becuase used for boot mode

HSPI: 13 (MOSI); 12 (MISO); 14 (SCK); 15 (CS)

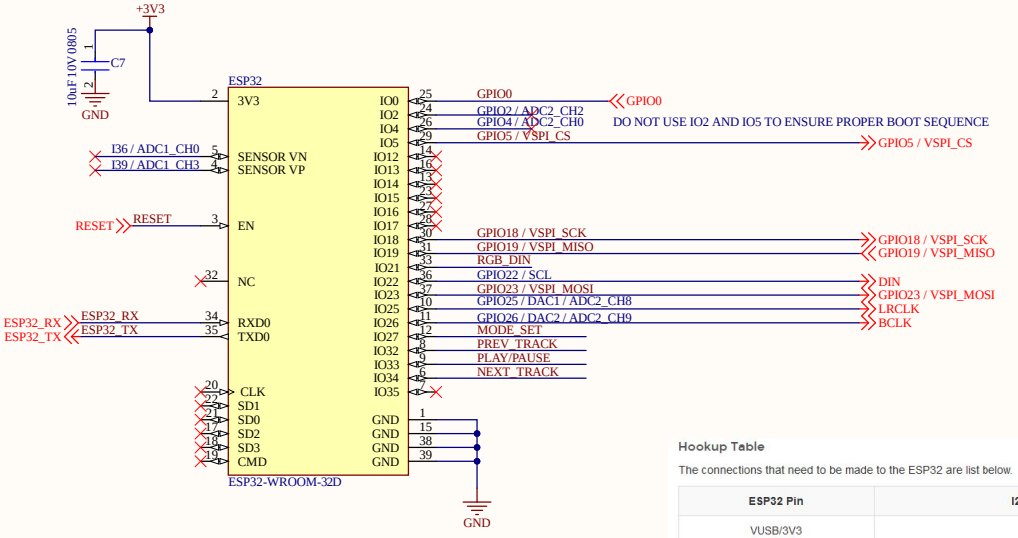
VSPI: 23 (MOSI); 19 (MISO); 18 (SCK); 5 (CS)

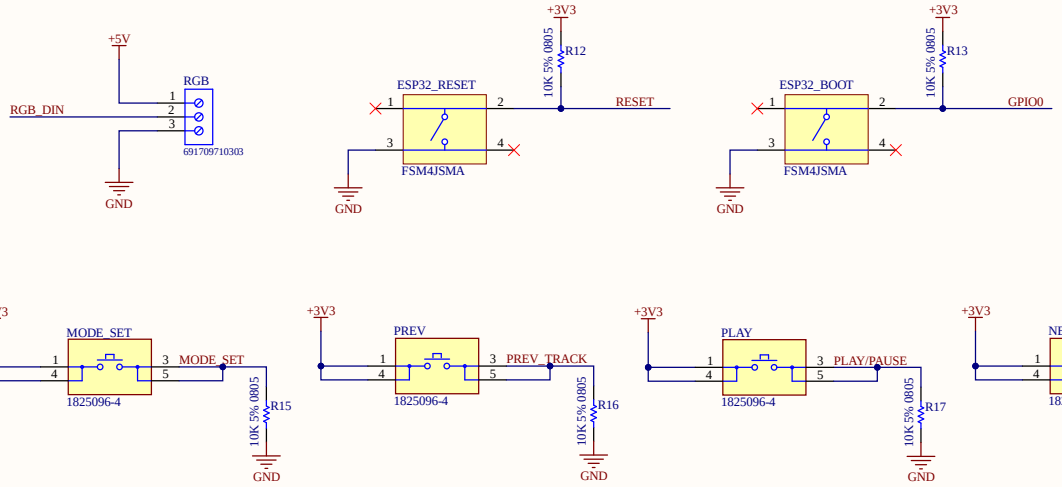
I2C: 21 (SDA); 22 (SCL)

UART0: 3 (RX), 1 (TX) ---> PROGRAMMING PORT

UART1: 9 (RX), 10 (TX), 6 (CTS), 11 (RTS)

UART2: 16 (RX), 17 (TX), 8 (CTS), 7 (RTS)




**Hookup Table**

The connections that need to be made to the ESP32 are list below.

| ESP32 Pin | I2S Audio Breakout Pin |
|---|---|
| VUSB/3V3 | VDD |
| GND | GND |
| GPIO 22 | DIN |
| GPIO 26 | BCLK |
| GPIO 25 | LRCLK |

## MicroSD Card Module Pinout – SPI

The microSD card module communicates using SPI communication protocol. You can connect it to the ESP32 using the default SPI pins.

| MicroSD card module | ESP32 |
|---|---|
| 3V3 | 3.3V |
| CS | GPIO 5 |
| MOSI | GPIO 23 |
| CLK | GPIO 18 |
| MISO | GPIO 19 |
| GND | GND |

| | | |
|---|---|---|
| Title: ESP32-DCU-Rev1 \| ESP32 | | |
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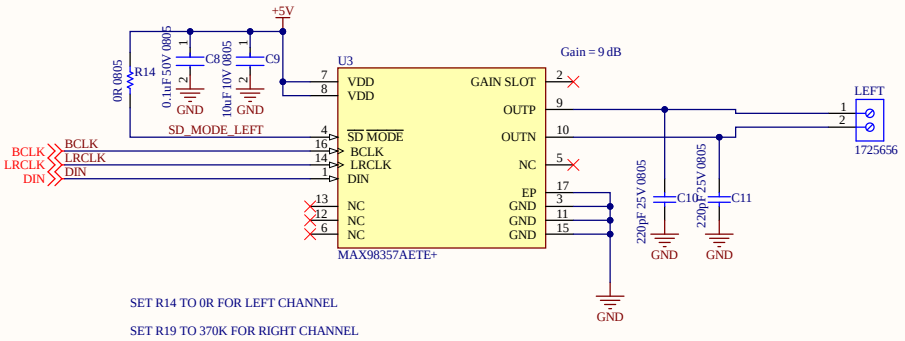
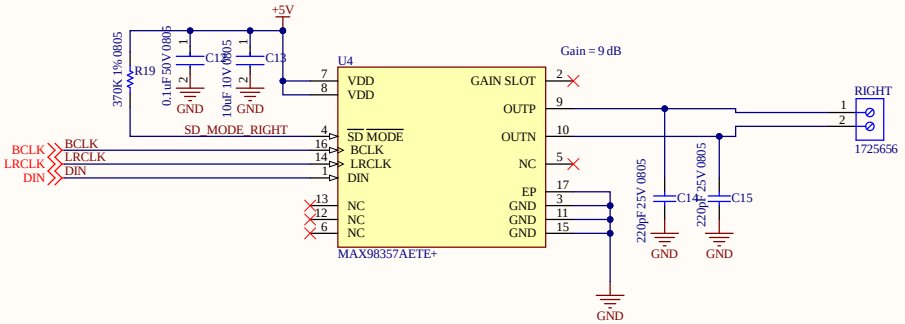
| File: C:\Users\..\ESP32.SchDoc | | Drawn By: D. Gusev |

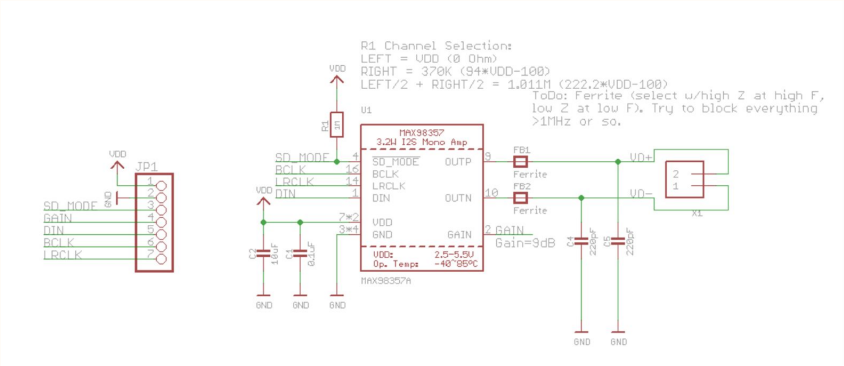
# AUDIO 3W MONO | MAX98357A




SET R14 TO 0R FOR LEFT CHANNEL

SET R19 TO 370K FOR RIGHT CHANNEL




| Title | | |
|---|---|---|
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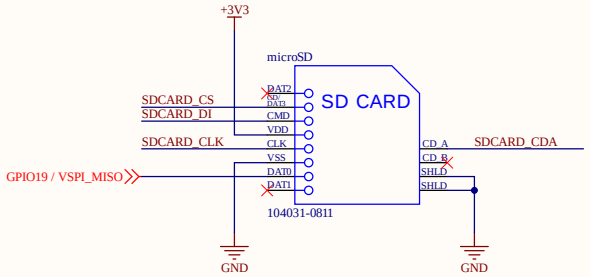
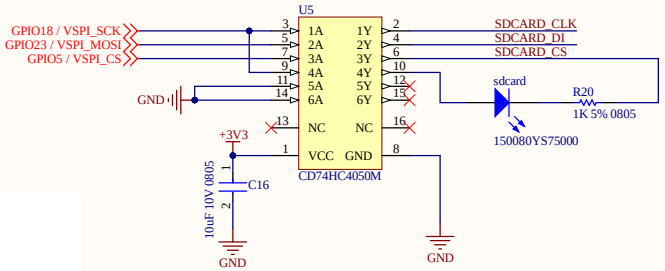
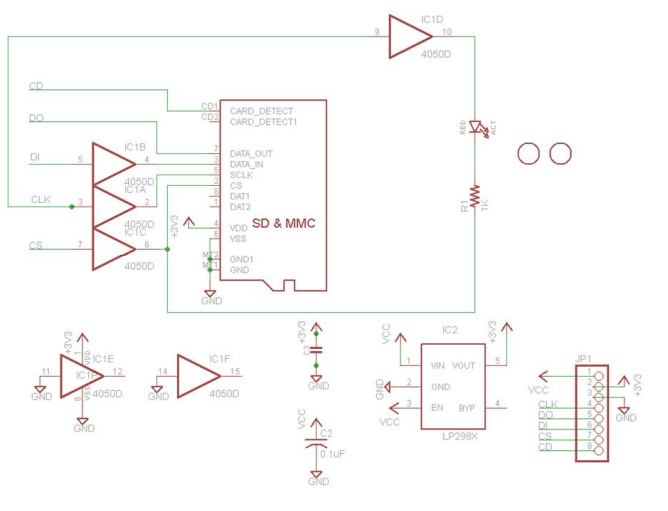
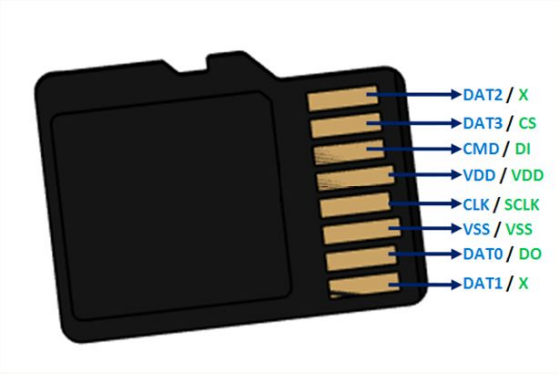
| File: C:\Users\..\audio.SchDoc | | Drawn By: D. Gusev |

# MICRO SD CARD READER | UP TO 4GB

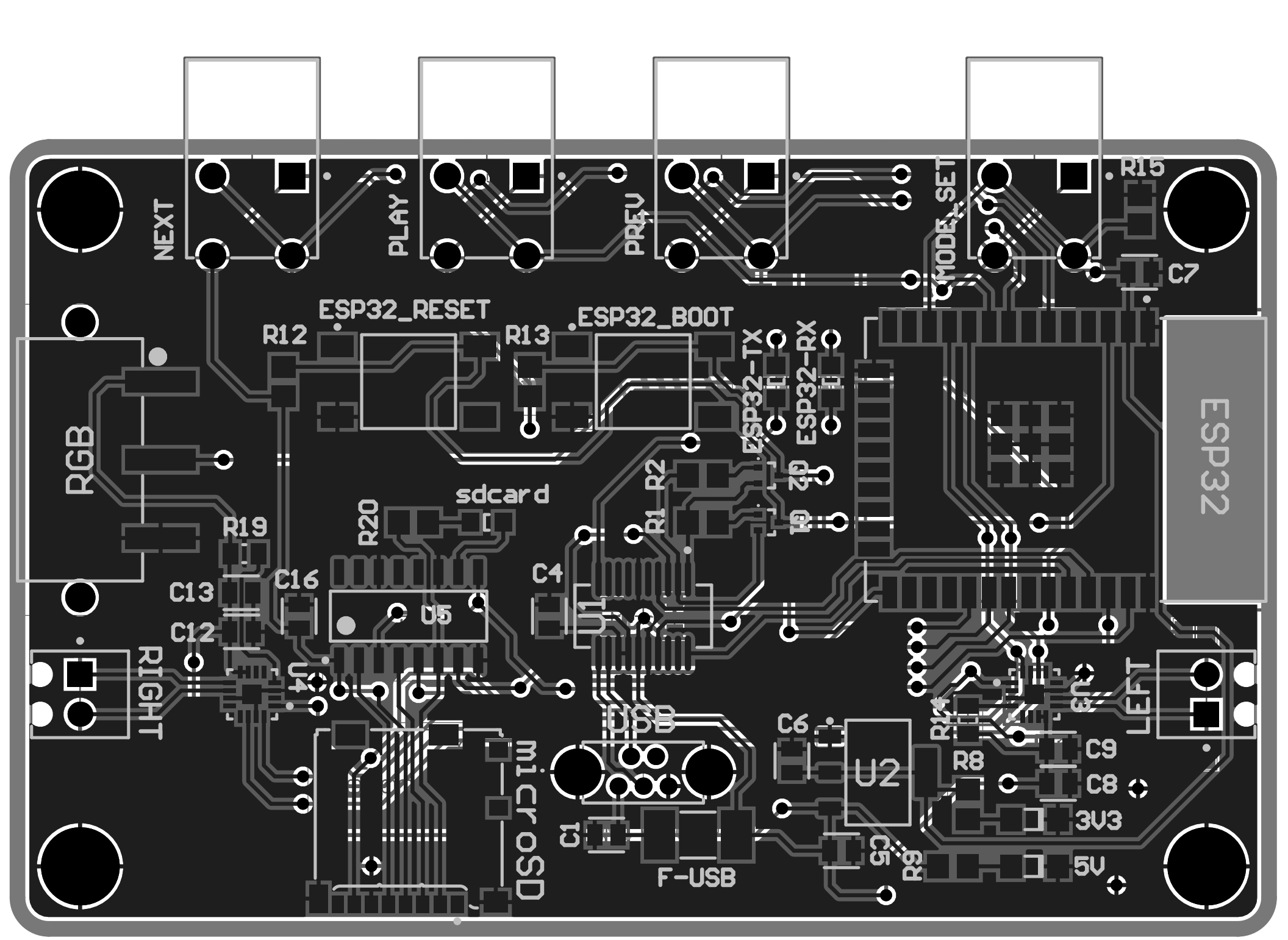



| | | |
|---|---|---|
| Title: ESP32-DCU-Rev1 \| ESP32 | | |
| Size: B | Number: PAGE 1 / 1 | Revision: Rev 1.0 |
| Date: 12-04-2021 | | Sheet 7 of 7 |
| File: C:\Users\..\sd_card.SchDoc | | Drawn By: D. Gusev |


NEXT
PLAY
PREV
MODE_SET
R15
C7
ESP32_RESET
R12
R13
ESP32_BOOT
ESP32-TX
ESP32-RX
RGB
R2
R1
sdcard
R20
R19
C16
C13
C12
C4
U5
U1
ESP32
RIGHT
LEFT
C3
R14
C9
R8
C8
3V3
C6
U2
C5
R9
5V
C1
F-USB
USB
microSD